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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,959	01/20/2004	Michael A. Martinelli		1480

7590 02/06/2006
Donald E. Mahoney
57 Eisenhower Circle
Wellesley, MA 02482

EXAMINER

JOHNSON III, HENRY M

ART UNIT PAPER NUMBER

3739

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/760,959	Applicant(s) MARTINELLI, MICHAEL A.	
	Examiner Henry M. Johnson, III	Art Unit 3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 24 and 33 are objected to because of the following informalities: the term "cooling blood flow through" is awkward. Perhaps "cooling blood flowing through..." would be better phrasing. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,931,047 to Broadwin et al. in view of U.S. Patent 6,203,540 to Weber. Broadwin et al. teach an apparatus for delivering RF energy and ultrasonic energy to a target tissue site (abstract) with a fluid that cools the tip and the blood and tissue particles (Col. 3, lines 57-62). A probe tip provides the means for delivery of the plurality of energy and control of the electrosurgical unit is disclosed. Broadwin et al. does not teach delivery of the energy in pulses or means for sensing the temperature of the tissue. Weber teaches an apparatus for delivery of energy to tissue, the energy being ultrasonic energy and laser delivered in pulses (Col. 7, lines 40-43). The apparatus includes sensors for determination of tissue temperature (Fig. 3, # 25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the temperature sensor and pulsed delivery as taught by Weber in the invention of Broadwin et al. as both are well known in the art for providing improved control of the energy delivery to tissue.

Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,931,047 to Broadwin et al. in view of U.S. Patent 6,203,540 to Weber, as applied to claim 24 above, and further in view of U.S. Patent 6,506,189 to Rittman et al. Broadwin et al. and Weber are discussed above, but do not teach a computer for control or planar electrodes. Rittman et al. teach the delivery of RF energy to tissue via electrodes, the energy controlled by a microprocessor that includes temperature feedback (Fig. 2). Alternatives to RF energy are disclosed as microwave, laser, ultrasound, or other direct or alternating current power source (Col. 12, lines 14-18). A cooling means is disclosed, also controlled by the microprocessor (Fig. 2, # FS) that is clearly a temperature controlled fluid in thermal contact with the tissue. The microprocessor provides the means for controlling the energy to the tissue and has the capability to provide any temperature profile that is programmed into the microprocessor, including sequencing and waveform algorithms. The programming of temperature profiles is well known. Rittman et al. discloses flat or planar electrodes (Fig. 6, #s 132 & 152). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the well known computer control of the energy and planar electrodes as taught by Rittman et al. in the invention of Broadwin et al. in view of Weber to insure delivery of the energy in a concisely controlled manner. Electrodes of a wide variety of shapes are common and the shape is adapted based on the specific target to be treated. One skilled in the art would look to other electrode configurations in the art.

Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,931,047 to Broadwin et al. in view of U.S. Patent 6,203,540 to Weber, as applied to claim 24 above, and further in view of U.S. Patent 5,891,134 to Goble et al. Broadwin et al. and Weber are discussed above, but do not disclose cylindrical or spherical electrodes. As previously discussed, many shapes of electrodes are common in the art. Goble et al. discloses

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expandable electrodes (Figs. 9a & 9b). The shape is interpreted as either cylindrical or spherical. Electrodes on flexible or expandable structures are well known in the art and therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the electrodes as taught by Goble et al. in the device of Broadwin et al. in view of Weber as electrodes of a wide variety of shapes are common and the shape is adapted based on a specific target to be treated.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,203,540 to Weber in view of U.S. Patent 4,931,047 to Broadwin et al. Both are discussed above. Weber combines a plurality of energy pulses, which are directed at tissue. Pulsing will inherently alter the temperature of the tissue, which is measured by sensors. Weber teaches cooling of the device, but not specifically the blood and tissue. Broadwin et al. teaches directly cooling blood and tissue during a procedure. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the cooling means as taught by Broadwin et al. in the method of Weber to cool the target tissue. Cooling of target tissue is pervasive in the art to protect non-target tissue. Spray cooling, cooling plates and thermoelectric cooling are alternate cooling means common in the art for cooling tissue directly, thereby cooling the blood in the associated vessels of the tissue.

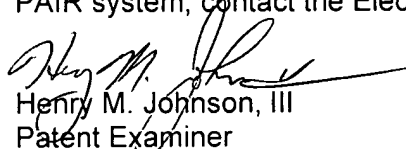
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry M. Johnson, III whose telephone number is (571) 272-4768. The examiner can normally be reached on Monday through Friday from 6:00 AM to 3:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry M. Johnson, III
Patent Examiner
Art Unit 3739